CLAIMS

What is claimed is:

1.   A computer implemented method of controlling an analytical instrument that
analyzes microfluidic devices, comprising:

receiving a sequence of steps, each step specifying at least one well of a microfluidic
device and a value indicative of mobility to be applied to fluid in the at least one well;

for each step, applying the mobility specified by the value to the fluid in the at least
one well; and

scanning fluid as it passes a detection zone in the microfluidic device.

2.   The method of claim 1, wherein each step specifies a duration for applying the
mobility specified by the value to the fluid in the at least one well.

3.   The method of claim 1, wherein the value indicates a current to be applied to
the fluid in the at least one well.

4.   The method of claim 1, wherein the value indicates a voltage to be applied to
the fluid in the at least one well.

5.   The method of claim 1, wherein the value indicates a vacuum to be applied to
the fluid in the at least one well.

6.   The method of claim 1, wherein the value indicates a pressure to be applied to
the fluid in the at least one well.

7.   The method of claim 1, wherein the sequence of steps include steps that load a
sample to a main channel in the microfluidic device and run the sample through the main
channel past the detection zone.

8.   The method of claim 7, wherein at least one step simultaneously runs a first sample through the main channel and loads a second sample to the main channel.

9.   The method of claim 1, wherein the sequence of steps include steps that load a sample to a main channel in the microfluidic device, inject the sample into the main channel, pull back the sample from the main channel, and run the sample through the main channel past the detection zone.

10.   The method of claim 1, wherein the microfluidic device includes at least two intersecting microscale channels.

11.   The method of claim 1, wherein the sequence of steps stored on a computer readable medium and the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

12.   A computer program product for controlling an analytical instrument that analyzes microfluidic devices, comprising:

code that includes a sequence of steps, each step specifying at least one well of a microfluidic device and a value indicative of mobility to be applied to fluid in the at least one well; and

a computer readable medium that stores the code.

13.   The computer program product of claim 12, wherein the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

14.   A system, comprising:

an instrument that controls and analyzes a microfluidic device;

a computer including a processor and a computer readable medium, the computer being capable of directing the instrument to apply mobility to fluid in wells of the microfluidic device; and

code stored on the computer readable medium that includes a sequence of steps, each step specifying at least one well of a microfluidic device and a value indicative of mobility to be applied to fluid in the at least one well.

15.   The system of claim 14, wherein the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

16.   A computer implemented method of controlling an analytical instrument over a network, comprising:

specifying configuration information including a test to be performed by the analytical instrument;

sending the configuration information over the network to the analytical instrument; and

receiving data over the network collected by the analytical instrument in performing the test.

17.   The method of claim 16, further comprising storing the configuration information and collected data in a database.

18.   The method of claim 16, wherein specifying configuration information includes selecting the configuration information from a database.

19.   The method of claim 16, wherein specifying configuration information includes interacting with a graphical user interface to enter the configuration information.

20.   The method of claim 19, wherein the graphical user interface includes a web page for the analytical instrument.

40

21. The method of claim 16, wherein the configuration information includes sample well information, load/waste well information, and buffer well information for a microfluidic device.

5

22. The method of claim 16, further comprising sending a command to the analytical instrument over the network to perform diagnostics.

23. The method of claim 22, further comprising receiving results of the diagnostics

10 over the network.

24. The method of claim 16, further comprising receiving a signal over the network that the analytical instrument has completed the test.

15 25. The method of claim 24, wherein the signal is an electronic mail message.

26. A computer program product for controlling an analytical instrument over a network, comprising:

code that receives configuration information including a test to be performed by the

20 analytical instrument;

code that sends the configuration information over the network to the analytical instrument;

code that receives data over the network collected by the analytical instrument in performing the test; and

25 a computer readable medium that stores the codes.

27. The computer program product of claim 26, wherein the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

30

28. A system, comprising:

an instrument that controls and analyzes a microfluidic device;

a computer including a processor and a computer readable medium, the computer being capable of directing the instrument to apply mobility to fluid in wells of the microfluidic device and communicating information over a network; and

5   code stored on the computer readable medium that receives configuration information over the network including a test to be performed by the instrument, controls the instrument according to the configuration information, collects data from the test, and sends the collected data over the network.

10   29.   The system of claim 28, wherein the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.